

SEQUENCE LISTING

<110> Mitchell, William M.
Stratton, Charles W.

<120> IDENTIFICATION OF ANTIGENIC PEPTIDE
SEQUENCES

<130> VDB98-01

<140> 09/025,596

<141> 1998-02-18

<150> 08/911,593

<151> 1997-08-14

<150> 60/023,921

<151> 1996-08-14

<160> 118

<170> FastSEQ for Windows Version 3.0

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<212> PRT

<213> Chlamydia pneumoniae

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Ser Ser Asn Ser Ser Ser Ser Thr Ser Arg Ser
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<213> Chlamydia pneumoniae

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Gly Ser Lys Gln Gln Gly Ser Ser
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<213> Chlamydia pneumoniae

10030369-14401

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Asp Asp Ala Glu Asn Glu Thr Ala Ser
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<210> 11

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<213> Chlamydia pneumoniae

<400> 11

Lys Glu Glu Asp Lys Lys Arg Arg Glu Ala Ser Asp Ala Lys Asn Glu
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<211> 16

<212> PRT

<213> Homo sapiens

<400> 12

Ala Glu Glu Asp Arg Arg Lys Lys Glu Arg Val Glu Ala Val Asn Met
1 5 10 15

<210> 13

<211> 22

<212> PRT

<213> Chlamydia pneumoniae

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Lys Lys His Ser Phe Ser Thr Lys Pro Pro Ser Asn Asn Gly Ser Ser
1 5 10 15
Glu Asp His Ile Glu Glu
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<210> 14

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<213> Chlamydia pneumoniae

<400> 14

Tyr Thr Val Thr Ser Gly Ser Lys Gly Asp Ala Val Phe Glu
1 5 10

<210> 15

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<213> Chlamydia pneumoniae

<400> 15

Thr Ser Ser Glu Gly Thr Arg Thr Thr Pro Ser
1 5 10

<210> 16

<211> 8

<212> PRT

<213> Chlamydia pneumoniae

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<400> 28

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Asp Thr Ala Lys Lys Lys Gln Asp Arg Ala Glu
1 5 10

<210> 35
<211> 11
<212> PRT
<213> Mouse

<400> 35
Glu Lys Ser Gln Gly Lys Val Leu Gln Ala Thr
1 5 10

<210> 36
<211> 10
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<213> Chlamydia pneumoniae

<400> 36
Gly Thr Gly Lys Arg Thr Asp Asp Gly Thr
1 5 10

<210> 37
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<213> Mouse

<400> 37
Gly Ser Gly Gly Lys Gly Lys Ser Gly Glu
1 5 10

<210> 38
<211> 25
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<213> Chlamydia pneumoniae

<400> 38
Arg Arg Asn Lys Gln Pro Val Glu Gln Lys Ser Arg Gly Ala Phe Cys
1 5 10 15
Asp Lys Glu Phe Tyr Pro Cys Glu Glu
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<210> 39
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<212> PRT
<213> Chlamydia pneumoniae

<400> 39
Asp Met Arg Pro Gly Asp Lys Lys Val Phe Thr Val Glu Phe Cys Pro
1 5 10 15
Gln Arg Arg

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<400> 40

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<212> PRT

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<400> 43

<210> 44

<211> 11

<212> PRT

<400> 44

<210> 45

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<212> PRT

<400> 45

Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
1 5 10 15

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Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Gln Thr Asp Val Asn Lys
65 70 75 80
Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Ala Thr Gly Asn Ala Ala
85 90 95
Ala Pro Ser Thr
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<210> 46
<211> 100
<212> PRT
<213> Chlamydia trachomatis

<400> 46
Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
1 5 10 15
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
65 70 75 80
Glu Phe Gln Met Gly Ala Lys Pro Thr Thr Thr Thr Gly Asn Ala Ala
85 90 95
Ala Pro Ser Thr
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<210> 47
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<212> PRT
<213> Chlamydia trachomatis

<400> 47
Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
1 5 10 15
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Glu Thr Asp Val Asn Lys
65 70 75 80
Glu Phe His Met Gly Ala Lys Pro Thr Thr Asp Thr Gly Asn Ser Ala
85 90 95
Ala Pro Leu Thr
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10020259-12404

<400> 48

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<210> 49
<211> 100
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<213> Chlamydia trachomatis
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<400> 49

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<210> 50
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<213> Chlamydia trachomatis
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<400> 50

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1				5					10					15	
Ala	Ser	Ser	Leu	Gln	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
			20					25					30		
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
		35					40					45			

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Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Ile Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
65 70 75 80
Glu Phe Lys Met Gly Glu Ala Leu Ala Gly Ser Thr Gly Asn Thr Thr
85 90 95
Ser Thr Leu Ser Lys
100

<210> 51
<211> 103
<212> PRT
<213> Chlamydia trachomatis

<400> 51
Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
1 5 10 15
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Val Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
65 70 75 80
Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Ser Asp Val Ala Ala Gly
85 90 95
Leu Gln Asn Asp Pro Thr Ile
100

<210> 52
<211> 102
<212> PRT
<213> Chlamydia trachomatis

<400> 52
Met Lys Lys Leu Leu Lys Ser Val Leu Val Phe Ala Ala Leu Ser Ser
1 5 10 15
Ala Ser Ser Leu Gln Ala Leu Pro Val Gly Asn Pro Ala Glu Pro Ser
20 25 30
Leu Met Ile Asp Gly Ile Leu Trp Glu Gly Phe Gly Gly Asp Pro Cys
35 40 45
Asp Pro Cys Thr Thr Trp Cys Asp Ala Ile Ser Met Arg Met Gly Tyr
50 55 60
Tyr Gly Asp Phe Val Phe Asp Arg Val Leu Lys Thr Asp Val Asn Lys
65 70 75 80
Glu Phe Gln Met Gly Ala Ala Pro Thr Thr Arg Asp Val Ala Gly Leu
85 90 95
Glu Lys Asp Pro Val Val
100

<210> 53
<211> 97
<212> PRT
<213> Chlamydia trachomatis

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<400> 53

Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Leu	Val	Phe	Ala	Ala	Leu	Ser	Ser
1				5					10					15	
Ala	Ser	Ser	Leu	Gln	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
			20					25					30		
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
		35					40					45			
Ala	Pro	Cys	Thr	Thr	Trp	Cys	Asp	Ala	Ile	Ser	Met	Val	Met	Gly	Tyr
	50					55					60				
Tyr	Gly	Asp	Phe	Val	Phe	Asp	Arg	Val	Leu	Lys	Thr	Asp	Val	Asn	Lys
65					70					75				80	
Glu	Phe	Gln	Met	Gly	Ala	Ala	Pro	Thr	Thr	Asn	Asp	Ala	Ala	Pro	Lys
				85					90					95	

Thr

<210> 54

<211> 102

<212> PRT

<213> Chlamydia trachomatis

<400> 54

Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Leu	Val	Phe	Ala	Ala	Leu	Ser	Ser
1				5					10					15	
Ala	Ser	Ser	Leu	Gln	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
			20					25					30		
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
		35					40					45			
Asp	Pro	Cys	Thr	Thr	Trp	Cys	Asp	Ala	Ile	Ser	Met	Val	Met	Gly	Tyr
	50					55					60				
Tyr	Gly	Asp	Phe	Val	Phe	Asp	Arg	Val	Leu	Lys	Thr	Asp	Val	Asn	Lys
65					70					75				80	
Glu	Phe	Gln	Met	Gly	Ala	Glu	Pro	Thr	Thr	Ser	Asp	Thr	Ala	Gly	Leu
				85					90					95	

Ser Asn Asp Pro Thr Thr
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<210> 55

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<213> Chlamydia trachomatis

<400> 55

Met	Lys	Lys	Leu	Leu	Lys	Ser	Val	Ala	Val	Phe	Val	Ala	Gly	Ser	Ser
1				5					10					15	
Ala	Ser	Ser	Leu	His	Ala	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser
			20					25					30		
Leu	Met	Ile	Asp	Gly	Ile	Leu	Trp	Glu	Gly	Phe	Gly	Gly	Asp	Pro	Cys
		35					40					45			
Asp	Pro	Cys	Thr	Thr	Trp	Cys	Asp	Ala	Ile	Ser	Met	Arg	Met	Gly	Leu
	50					55					60				
Tyr	Leu	Asp	Phe	Val	Phe	Asp	Arg	Val	Leu	Lys	Thr	Asp	Val	Asn	Lys
65					70					75				80	
Gln	Phe	Glu	Met	Gly	Ala	Ala	Pro	Thr	Gly	Asp	Ala	Asp	Leu	Thr	Thr
				85					90					95	

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<210> 56
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<212> PRT
<213> Chlamydia pneumoniae
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<210> 57
<211> 100
<212> PRT
<213> Chlamydia trachomatis
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<210> 58
<211> 65
<212> PRT
<213> Chlamydia trachomatis
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<400> 58
 Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala
 1 5 10 15
 Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
 20 25 30

Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Ser Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asn Asn Glu Asn
 50 55 60
 Gln
 65

<210> 59
 <211> 134
 <212> PRT
 <213> Chlamydia trachomatis

<400> 59

Cys Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala
 1 5 10 15
 Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
 20 25 30
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn
 50 55 60
 Gln Lys Thr Val Lys Ala Glu Ser Val Pro Asn Met Ser Phe Asp Gln
 65 70 75 80
 Ser Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val Gly
 85 90 95
 Ala Arg Ala Thr Lys Val Ser Asn Gly Thr Phe Val Pro Asn Met Ser
 100 105 110
 Leu Asp Gln Ser Val Val Glu Leu Tyr Thr Asp Thr Ala Phe Ala Trp
 115 120 125
 Ser Val Gly Ala Arg Ala
 130

<210> 60
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 <212> PRT
 <213> Chlamydia trachomatis

<400> 60

Leu Thr Ala Arg Glu Asn Pro Ala Tyr Gly Arg His Met Gln Asp Ala
 1 5 10 15
 Glu Met Phe Thr Asn Cys Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
 20 25 30
 Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Ser Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Asp Asn Glu Asn
 50 55 60
 Gln Ser Thr Val Lys Thr Asn Ser Val Pro Asn Met Ser Leu Asp Gln
 65 70 75 80
 Ser Val Val Glu Leu Tyr Thr Asp Thr Ala Phe Ser Trp Ser Val Gly
 85 90 95
 Ala Arg Ala

<210> 61
 <211> 99

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<212> PRT

<213> Chlamydia trachomatis

<400> 61

Cys	Thr	Ala	Arg	Glu	Asn	Pro	Ala	Tyr	Gly	Arg	His	Met	Gln	Asp	Ala
1				5					10					15	
Glu	Met	Phe	Thr	Asn	Ala	Ala	Tyr	Met	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20					25					30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Ser	Gly	Tyr	Leu	Lys	Gly
		35					40					45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Asp	Asn	Glu	Asn
		50				55					60				
Gln	Ser	Thr	Val	Lys	Lys	Asp	Ala	Val	Pro	Asn	Met	Ser	Phe	Asp	Gln
65					70					75					80
Ser	Val	Val	Glu	Leu	Tyr	Thr	Asp	Thr	Thr	Phe	Ala	Trp	Ser	Val	Gly
				85					90						95

Ala Arg Ala

<210> 62

<211> 99

<212> PRT

<213> Chlamydia trachomatis

<400> 62

Leu	Val	Glu	Arg	Thr	Asn	Pro	Ala	Tyr	Gly	Lys	His	Met	Gln	Asp	Ala
1				5					10					15	
Glu	Met	Phe	Thr	Asn	Cys	Ala	Tyr	Thr	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20					25					30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Ser	Gly	Tyr	Leu	Lys	Gly
		35					40					45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Asp	Gly	Val	Asn
		50				55					60				
Ala	Thr	Lys	Pro	Ala	Ala	Asp	Ser	Ile	Pro	Asn	Val	Gln	Leu	Asn	Gln
65					70					75					80
Ser	Val	Val	Glu	Leu	Tyr	Thr	Asp	Thr	Thr	Phe	Ala	Trp	Ser	Val	Gly
				85					90						95

Ala Arg Ala

<210> 63

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 63

Asn	Val	Ala	Arg	Pro	Asn	Pro	Ala	Tyr	Gly	Lys	His	Met	Gln	Asp	Ala
1				5					10					15	
Glu	Met	Phe	Thr	Asn	Ala	Ala	Tyr	Met	Ala	Leu	Ile	Asn	Trp	Asp	Arg
			20					25					30		
Phe	Asp	Val	Phe	Cys	Thr	Leu	Gly	Ala	Thr	Thr	Gly	Tyr	Leu	Lys	Gly
		35					40					45			
Asn	Ser	Ala	Ser	Phe	Asn	Leu	Val	Gly	Leu	Phe	Gly	Thr	Lys	Thr	Gln
		50				55					60				

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<210> 64
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<212> PRT
<213> Chlamydia trachomatis
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<210> 65
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<212> PRT
<213> Chlamydia trachomatis
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<210> 66
<211> 100
<212> PRT
<213> Chlamydia trachomatis
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<400> 66

Asn Val Ala Arg Pro Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala
 1 5 10 15
 Glu Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg
 20 25 30
 Phe Asp Val Phe Cys Thr Leu Gly Ala Thr Thr Gly Tyr Leu Lys Gly
 35 40 45
 Asn Ser Ala Ser Phe Asn Leu Val Gly Leu Phe Gly Thr Lys Thr Gln
 50 55 60
 Ser Thr Asn Phe Asn Thr Ala Lys Leu Val Pro Asn Thr Ala Leu Asn
 65 70 75 80
 Gln Ala Val Val Glu Leu Tyr Thr Asp Thr Thr Phe Ala Trp Ser Val
 85 90 95
 Gly Ala Arg Ala
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<210> 67

<211> 96

<212> PRT

<213> Chlamydia trachomatis

<400> 67

Ala Ser Arg Glu Asn Pro Ala Tyr Gly Lys His Met Gln Asp Ala Glu
 1 5 10 15
 Met Phe Thr Asn Ala Ala Tyr Met Ala Leu Ile Asn Trp Asp Arg Phe
 20 25 30
 Asp Val Phe Cys Thr Leu Gly Ala Thr Ser Gly Tyr Leu Lys Gly Asn
 35 40 45
 Ser Ala Ala Phe Asn Leu Val Gly Leu Phe Gly Arg Asp Glu Thr Ala
 50 55 60
 Val Ala Ala Asp Asp Ile Pro Asn Val Ser Leu Ser Gln Ala Val Val
 65 70 75 80
 Glu Leu Tyr Thr Asp Thr Ala Phe Ala Trp Ser Val Gly Ala Arg Ala
 85 90 95

<210> 68

<211> 100

<212> PRT

<213> Chlamydia pneumoniae

<400> 68

Tyr Thr Thr Ala Val Asp Arg Pro Asn Pro Ala Tyr Asn Lys His Leu
 1 5 10 15
 His Asp Ala Glu Trp Phe Thr Asn Ala Gly Ile Phe Ala Leu Ile Asn
 20 25 30
 Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly Ala Ser Asn Gly Ile
 35 40 45
 Arg Lys Gly Asn Ser Thr Ala Phe Asn Leu Val Gly Leu Phe Gly Val
 50 55 60
 Lys Gly Thr Thr Val Asn Ala Asn Glu Leu Pro Asn Val Ser Leu Ser
 65 70 75 80
 Asn Gly Val Val Glu Leu Tyr Thr Asp Thr Ser Phe Ser Trp Ser Val
 85 90 95
 Gly Ala Arg Ala
 100

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<400> 69

<210> 70

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 70

<210> 71

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 71

Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr	Leu	Gly	Ala	Ser	Phe	Gln	Tyr
1				5					10					15	
Ala	Gln	Ser	Lys	Pro	Lys	Val	Glu	Glu	Leu	Asn	Val	Leu	Cys	Asn	Ala
			20				25						30		
Ala	Glu	Phe	Thr	Ile	Asn	Lys	Pro	Lys	Gly	Tyr	Val	Gly	Lys	Glu	Phe
		35					40					45			

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<210> 72
<211> 100
<212> PRT
<213> Chlamydia trachomatis
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<210> 73
<211> 100
<212> PRT
<213> Chlamydia trachomatis
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<210> 74
<211> 100
<212> PRT
<213> Chlamydia trachomatis
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<400> 74

Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr	Leu	Gly	Ala	Ser	Phe	Gln	Tyr
1				5					10					15	
Ala	Gln	Ser	Lys	Pro	Lys	Ile	Glu	Glu	Leu	Asn	Val	Leu	Cys	Asn	Ala
			20					25					30		
Ala	Glu	Phe	Thr	Ile	Asn	Lys	Pro	Lys	Gly	Tyr	Val	Gly	Lys	Glu	Phe
		35					40					45			
Pro	Leu	Asp	Leu	Thr	Ala	Gly	Thr	Asp	Ala	Ala	Thr	Gly	Thr	Lys	Asp
	50					55					60				
Ala	Ser	Ile	Asp	Tyr	His	Glu	Trp	Gln	Ala	Ser	Leu	Ser	Leu	Ser	Tyr
65					70					75				80	
Arg	Leu	Asn	Met	Phe	Thr	Pro	Tyr	Ile	Gly	Val	Lys	Trp	Ser	Arg	Ala
				85					90					95	
Ser	Phe	Asp	Ser												
			100												

<210> 75

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 75

Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr	Leu	Gly	Ala	Ser	Phe	Gln	Tyr
1				5					10					15	
Ala	Gln	Ser	Lys	Pro	Lys	Val	Glu	Glu	Leu	Asn	Val	Leu	Cys	Asn	Ala
			20					25					30		
Ser	Glu	Phe	Thr	Ile	Asn	Lys	Pro	Lys	Gly	Tyr	Val	Gly	Ala	Glu	Phe
		35					40					45			
Pro	Leu	Asn	Ile	Thr	Ala	Gly	Thr	Glu	Ala	Ala	Thr	Gly	Thr	Lys	Asp
	50					55					60				
Ala	Ser	Ile	Asp	Tyr	His	Glu	Trp	Gln	Ala	Ser	Leu	Ala	Leu	Ser	Tyr
65					70					75				80	
Arg	Leu	Asn	Met	Phe	Thr	Pro	Tyr	Ile	Gly	Val	Lys	Trp	Ser	Arg	Val
				85					90					95	
Ser	Phe	Asp	Ala												
			100												

<210> 76

<211> 100

<212> PRT

<213> Chlamydia trachomatis

<400> 76

Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr	Leu	Gly	Ala	Ser	Phe	Gln	Tyr
1				5					10					15	
Ala	Gln	Ser	Lys	Pro	Lys	Val	Glu	Glu	Leu	Asn	Val	Leu	Cys	Asn	Ala
			20					25					30		
Ser	Glu	Phe	Thr	Ile	Asn	Lys	Pro	Lys	Gly	Tyr	Val	Gly	Ala	Glu	Phe
		35					40					45			
Pro	Leu	Asp	Ile	Thr	Ala	Gly	Thr	Glu	Ala	Ala	Thr	Gly	Thr	Lys	Asp
	50					55					60				
Ala	Ser	Ile	Asp	Tyr	His	Glu	Trp	Gln	Ala	Ser	Leu	Ala	Leu	Ser	Tyr
65					70					75				80	
Arg	Leu	Asn	Met	Phe	Thr	Pro	Tyr	Ile	Gly	Val	Lys	Trp	Ser	Arg	Val
				85					90					95	

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Ser Phe Asp Ala
100

<210> 77
<211> 100
<212> PRT
<213> Chlamydia trachomatis

<400> 77

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
1 5 10 15
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
20 25 30
Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe
35 40 45
Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp
50 55 60
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
65 70 75 80
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val
85 90 95
Ser Phe Asp Ala
100

<210> 78
<211> 100
<212> PRT
<213> Chlamydia trachomatis

<400> 78

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
1 5 10 15
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asp Ala
20 25 30
Ser Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Ala Glu Phe
35 40 45
Pro Leu Asp Ile Thr Ala Gly Thr Glu Ala Ala Thr Gly Thr Lys Asp
50 55 60
Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
65 70 75 80
Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Val
85 90 95
Ser Phe Asp Ala
100

<210> 79
<211> 100
<212> PRT
<213> Chlamydia trachomatis

<400> 79

Ala Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Ser Phe Gln Tyr
1 5 10 15
Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Leu Cys Asn Ala
20 25 30

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Ala Glu Phe Thr Ile Asn Lys Pro Lys Gly Tyr Val Gly Gln Glu Phe
 35 40 45
 Pro Leu Asn Ile Lys Ala Gly Thr Val Ser Ala Thr Asp Thr Lys Asp
 50 55 60
 Ala Ser Ile Asp Tyr His Glu Trp Gln Ala Ser Leu Ala Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Met Phe Thr Pro Tyr Ile Gly Val Lys Trp Ser Arg Ala
 85 90 95
 Ser Phe Asp Ala
 100

<210> 80
 <211> 100
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 80

Gly Leu Trp Glu Cys Gly Cys Ala Thr Leu Gly Glu Ser Phe Gln Tyr
 1 5 10 15
 Ala Gln Ser Lys Pro Lys Val Glu Glu Leu Asn Val Ile Cys Asn Val
 20 25 30
 Ser Gln Phe Ser Val Asn Lys Pro Lys Gly Tyr Lys Gly Val Ala Phe
 35 40 45
 Pro Leu Pro Thr Asp Ala Gly Val Ala Thr Ala Thr Gly Thr Lys Ser
 50 55 60
 Ala Thr Ile Asn Tyr His Glu Trp Gln Val Gly Ala Ser Leu Ser Tyr
 65 70 75 80
 Arg Leu Asn Ser Leu Val Pro Tyr Ile Gly Val Gln Trp Ser Arg Ala
 85 90 95
 Thr Phe Asp Ala
 100

<210> 81
 <211> 94
 <212> PRT
 <213> Chlamydia trachomatis

<400> 81

Asp Thr Ile Arg Ile Ala Gln Pro Lys Ser Ala Thr Thr Val Phe Asp
 1 5 10 15
 Val Thr Thr Leu Asn Pro Thr Ile Ala Gly Ala Gly Asp Val Lys Ala
 20 25 30
 Ser Ala Glu Gly Gln Leu Gly Asp Thr Met Gln Ile Val Ser Leu Gln
 35 40 45
 Leu Asn Lys Met Lys Ser Arg Lys Ser Cys Gly Ile Ala Val Gly Thr
 50 55 60
 Thr Ile Val Asp Ala Asp Lys Tyr Ala Val Thr Val Glu Thr Arg Leu
 65 70 75 80
 Ile Asp Glu Arg Ala Ala His Val Asn Ala Gln Phe Arg Phe
 85 90

<210> 82
 <211> 92
 <212> PRT
 <213> Chlamydia trachomatis

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<400> 82

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Ser	Ala	Glu	Thr	Ile	Phe	Asp
1				5					10					15	
Val	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Gly	Asp	Val	Lys	Thr
			20					25					30		
Ser	Ala	Glu	Gly	Gln	Leu	Gly	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu	Gln
		35					40					45			
Leu	Asn	Met	Lys	Ser	Arg	Lys	Cys	Gly	Ile	Ala	Val	Gly	Thr	Thr	Ile
	50					55					60				
Val	Asp	Ala	Asp	Lys	Tyr	Ala	Ile	Thr	Val	Glu	Thr	Arg	Leu	Ile	Asp
65					70					75					80
Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe				
				85					90						

<210> 83

<211> 94

<212> PRT

<213> Chlamydia trachomatis

<400> 83

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Ser	Ala	Thr	Ala	Ile	Phe	Asp
1				5					10					15	
Thr	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Gly	Asp	Val	Lys	Thr
			20					25					30		
Gly	Thr	Glu	Gly	Gln	Leu	Gly	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu	Gln
		35					40					45			
Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly	Thr
	50					55				60					
Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg	Leu
65					70					75					80
Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe		
				85					90						

<210> 84

<211> 94

<212> PRT

<213> Chlamydia trachomatis

<400> 84

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Ser	Ala	Thr	Ala	Ile	Phe	Asp
1				5					10					15	
Thr	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Ala	Gly	Asp	Val	Lys	Ala
			20					25					30		
Ser	Ala	Glu	Gly	Gln	Leu	Gly	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu	Gln
		35					40					45			
Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly	Thr
	50					55				60					
Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg	Leu
65					70					75					80
Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe		
				85					90						

<210> 85

<211> 94

<212> PRT

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<400> 85

<210> 86

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 86

<210> 87

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 87

Asp	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Glu	Ala	Ile	Leu	Asp
1				5					10					15	
Val	Thr	Thr	Leu	Asn	Arg	Thr	Thr	Ala	Gly	Lys	Gly	Ser	Val	Val	Ser
			20					25					30		
Ala	Gly	Thr	Asp	Asn	Glu	Leu	Ala	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
		35					40					45			
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
	50					55					60				
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Ala	Arg
65					70					75					80
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	
				85					90					95	

<210> 88

<400> 88

<210> 89

<211> 94

<212> PRT

<213> Chlamydia trachomatis

<400> 89

<210> 90

<211> 95

<212> PRT

<213> Chlamydia trachomatis

<400> 90

Asp 1	Thr	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Ala	Glu	Ala	Val	Leu	Asp
Val	Thr	Thr	Leu	Asn	Pro	Thr	Ile	Ala	Gly	Lys	Gly	Ser	Val	Val	Ala
Ser	Gly	Ser	Glu	Asn	Glu	Leu	Ala	Asp	Thr	Met	Gln	Ile	Val	Ser	Leu
Gln	Leu	Asn	Lys	Met	Lys	Ser	Arg	Lys	Ser	Cys	Gly	Ile	Ala	Val	Gly
Thr	Thr	Ile	Val	Asp	Ala	Asp	Lys	Tyr	Ala	Val	Thr	Val	Glu	Thr	Arg
Leu	Ile	Asp	Glu	Arg	Ala	Ala	His	Val	Asn	Ala	Gln	Phe	Arg	Phe	

<400> 91

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<210> 92
<211> 93
<212> PRT
<213> Chlamydia pneumoniae
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<400> 92

Asp	Asn	Ile	Arg	Ile	Ala	Gln	Pro	Lys	Leu	Pro	Thr	Ala	Val	Leu	Asn
1				5					10					15	
Leu	Thr	Ala	Trp	Asn	Pro	Ser	Leu	Leu	Gly	Asn	Ala	Thr	Ala	Leu	Ser
			20					25					30		
Thr	Thr	Asp	Ser	Phe	Ser	Asp	Phe	Met	Gln	Ile	Val	Ser	Cys	Gln	Ile
		35					40					45			
Asn	Lys	Phe	Lys	Ser	Arg	Lys	Ala	Cys	Val	Thr	Ala	Val	Ala	Thr	Leu
	50					55					60				
Ile	Val	Asp	Ala	Asp	Lys	Trp	Ser	Leu	Thr	Ala	Glu	Ala	Arg	Leu	Asn
65					70					75				80	
Asp	Glu	Arg	Ala	Ala	His	Ser	Gly	Ala	Gln	Phe	Arg	Phe			
				85					90						

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<210> 93
<211> 17
<212> PRT
<213> Chlamydia pneumoniae
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<400> 93

Cys Thr Gly Ser Ala Ala Ala Asn Tyr Thr Thr Ala Val Asp Arg Pro
1 5 10 15
Asn

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<210> 94
<211> 18
<212> PRT
<213> Chlamydia trachomatis
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<400> 94

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<210> 95
<211> 19
<212> PRT
<213> Chlamydia trachomatis
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<210> 96
<211> 17
<212> PRT
<213> Chlamydia psitacii
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<210> 97
<211> 15
<212> PRT
<213> Chlamydia pneumoniae
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<210> 98
<211> 15
<212> PRT
<213> Chlamydia trachomatis
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<210> 99
<211> 18
<212> PRT
<213> Chlamydia trachomatis
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<400> 99
Cys Phe Gly Asp Asn Glu Asn His Ala Thr Val Ser Asp Ser Lys Leu
1 5 10 15
Val Pro

<400> 100
 Cys Ile Gly Leu Ala Gly Thr Asp Phe Ala Asn Gln Arg Pro
 1 5 10

<400> 101
 Cys Gln Ile Asn Lys Phe Lys Ser Arg Lys Ala Cys Gly
 1 5 10

<400> 102
 Cys Gln Ile Asn Lys Met Lys Ser Arg Phe Ala Cys Gly
 1 5 10

<400> 103
Cys Gln Leu Asn Lys Met Lys Ser Arg Lys Ala Cys Gly
1 5 10

<400> 104
 Cys Gln Ile Asn Lys Phe Lys Ser Arg Phe Ala Cys Gly
 1 5 10

<400> 105
Arg Lys Lys Glu Arg Ser
1 5

<210> 106

<211> 10
 <212> PRT
 <213> Chlamydia pneumoniae

<400> 106
 Ser Thr Glu Cys Asn Ser Gln Ser Pro Gln
 1 5 10

<210> 107
 <211> 13
 <212> PRT
 <213> Ebola virus

<400> 107
 Asn Pro Asn Leu His Tyr Trp Thr Thr Gln Asp Glu Gly
 1 5 10

<210> 108
 <211> 22
 <212> PRT
 <213> Ebola virus

<400> 108
 Ser Gly Gln Ser Pro Ala Arg Thr Ser Ser Asp Pro Gly Thr Asn Thr
 1 5 10 15
 Thr Thr Glu Asp His Lys
 20

<210> 109
 <211> 9
 <212> PRT
 <213> Ebola virus

<400> 109
 Thr Gly Gly Arg Arg Thr Arg Arg Glu
 1 5

<210> 110
 <211> 10
 <212> PRT
 <213> Ebola virus

<400> 110
 Arg Asp Arg Phe Lys Arg Thr Ser Phe Phe
 1 5 10

<210> 111
 <211> 12
 <212> PRT
 <213> Ebola virus

<400> 111
 Glu Gln His His Arg Arg Thr Asp Asn Asp Ser Thr
 1 5 10

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<400> 112

<400> 113

<400> 114

<400> 115

<400> 116

<400> 117

<210> 118

<211> 15

<212> PRT

<213> Ebola virus

<400> 118

Thr His His Gln Asp Thr Gly Glu Glu Ser Ala Ser Ser Gly Lys
1 5 10 15

[illegible]